--**Figure 25**, which is presented on two separate sheets labeled **Figure 25A** and **25B**, illustrates one example of a KLFM process.--

IN THE CLAIMS

Please amend the claims in the application as follows:

43.   (Amended)   A computer readable medium that stores a computer program that places circuit modules in an integrated circuit ("IC") layout, wherein said IC layout includes a net and a plurality of circuit elements, wherein the net represents interconnections between a set of circuit elements, the computer program comprising sets of instructions for:

constructing a connection graph that models the topology of interconnect lines for connecting the circuit elements of the net, wherein said connection graph having edges, each edge connecting two circuit elements of the net, wherein at least one of the edges is at least partially diagonal,

identifying a placement metric based on the connection graph.

44.   (Amended)   The computer readable medium of claim 43, wherein the set of instructions for identifying a placement metric comprises sets of instructions for:

calculating the length of the edges of the graph; and

combining the length calculations of the edges of the graph.

45.   (Amended)   The computer readable medium of claim 44, wherein the set of instructions for combining of said length calculations comprises a set of instructions for adding said measurements.

46.   (Amended)   The computer readable medium of claim 44, wherein to calculate the length of each edge that connects two circuit elements, the computer program further comprises sets of instructions for:

a)   constructing a bounding box that encompasses the two circuit elements, said bounding box having a long side with a length L and a short side with a length S, said

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diagonal edge forming an angle A with a side of the IC layout, wherein the two circuit elements are at two corners of the bounding box;

b) calculating the distance (D) between the two corners of the bounding box by using the equation $D = [L - \{S (\cos A / \sin A)\}] + S/\sin A$.

47. (Amended) The computer readable medium of claim 46, wherein the angle A corresponds to the angle of at least one type of interconnect-line in a wiring model used by the IC layout.

48. (Amended) The computer readable medium of claim 44, wherein the combined length calculation provides an estimate of interconnect-line length needed to connect the circuit elements of the net.

49. (Amended) The computer readable medium of claim 48, wherein said estimate is measured to obtain a placement cost of an initial placement configuration.

50. (Amended) The computer readable medium of claim 48, wherein the computer program further comprises sets of instructions for:

a) modifying the position of at least one circuit elements of the net;

b) after said modification,

constructing a second connection graph that models the topology of interconnect lines for connecting the circuit elements of the net, said second graph having a number of edges, each edge connecting two circuit elements, and

calculating the length of the edges of the second connection graph,

c) to calculate the length of each edge that connects two circuit elements,

constructing a bounding box that encompasses the two circuit elements, said bounding box having a long side with a length L and a short side with a length S, wherein at least one type of interconnect-line in a wiring model used by the IC layout forms an angle A with a side of the IC layout;

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calculating the length (D) of the edge by using the equation D= [L - {S (cos A / sin A)}] + S/sin A.

    d)   combining the length calculations of the edges of the graph.

51.   (Amended)   The computer readable medium of claim 44, wherein the IC layout includes a plurality of nets, each net having a plurality of circuit elements, wherein the computer program further comprises sets of instructions for:

    a)   constructing, for each particular net, a connection graph that models the topology of interconnect lines for connecting the circuit elements of the particular net, said connection graphs having edges, wherein some of the edges are at least partially diagonal;

    b)   calculating the length of the edges of the graphs; and

    c)   combining the length calculations to obtain an estimate of the interconnect-line length needed for connecting the circuit elements of the nets.

52.   (Amended)   The computer readable medium of claim 43, wherein the diagonal edge forms a 45° angle with respect to a side of the IC layout.

53.   (Amended)   The computer readable medium of clam 43, wherein the diagonal edge forms a 120° angle with respect to a side of the IC layout.

54.   (Amended)   The computer readable medium of claim 43, wherein the circuit elements include pins of circuit modules.

55.   (Amended)   The computer readable medium of claim 43, wherein the circuit elements include circuit modules.

56.   (Amended)   The computer readable medium of claim 43, wherein the connection graph is a minimum spanning tree.

57.   (Amended)   The computer readable medium of claim 43, wherein the connection graph is a Steiner tree.

58.   (Amended)   A computer readable medium that stores a computer program that places circuit modules in an integrated circuit ("IC") layout, wherein said IC layout includes a plurality of nets each of which includes a plurality of circuit elements in the IC layout, wherein the computer program uses a wiring model that defines different types of interconnect lines for connecting the circuit elements of the nets, said wiring model having diagonal lines, the computer program comprising sets of instructions for:

a)   defining, for each particular net, a minimum spanning tree that models the topology of interconnect lines for connecting the circuit elements of the particular net, said minimum spanning trees having edges, wherein at least one of the edges of at least one of the minimum spanning trees is at least partially diagonal,

b)   calculating the length of the edges of the minimum spanning trees; and

c)   combining the length calculations to obtain an estimate of the total interconnect-line length needed for connecting the circuit elements of the nets.

59.   (Amended)   The computer readable medium of claim 58, wherein some of the diagonal edges are in the same direction as some of the diagonal lines in the wiring model.

60.   (Amended)   The computer readable medium of claim 58, wherein the computer program further comprises sets of instructions for:

a)   moving a circuit element from a first location in the IC layout to a second location in this layout;

b)   defining, for each net containing the moved circuit element, a new minimum spanning tree that models the topology of interconnect lines for connecting the circuit elements of the particular net after the move, said minimum spanning trees having edges, wherein at least one of the edges of at least one of the minimum spanning trees is at least partially diagonal,

c)   calculating the length of the new minimum spanning trees to estimate the

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change in the total interconnect-line length.

61. (Amended) A computer readable medium that stores a computer program that places circuit modules in an integrated circuit ("IC") layout, wherein said IC layout includes a plurality of nets each of which includes a plurality of circuit elements in the IC layout, wherein the computer program uses a wiring model that defines different types of interconnect lines for connecting the circuit elements of the nets, said wiring model having diagonal lines, the computer program comprising sets of instructions:

a) defining, for each particular net, a Steiner tree that models the topology of interconnect lines for connecting the circuit elements of the particular net, said Steiner trees having edges, wherein at least one of the edges of at least one of the Steiner trees is at least partially diagonal;

b) calculating the length of the Steiner trees; and

c) combining the length calculations to obtain an estimate of the total interconnect-line length needed for connecting the circuit elements of the nets.

62. (Amended) The computer readable medium of claim 61, wherein some of the diagonal edges are in the same direction as some of the diagonal lines in the wiring model.

63. (Amended) The computer readable medium of claim 61, wherein the computer program further comprises a set of instructions for defining a set of Steiner points for at least some of the nets.

64. (Amended) The computer readable medium of claim 61, wherein the computer program further comprises sets of instructions for:

a) moving a circuit element from a first location in the IC layout to a second location in this layout;

b) for each net containing the moved circuit element, defining a new Steiner tree that models the topology of interconnect lines for connecting the circuit elements of the

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particular net after the move, said new Steiner trees having edges, wherein at least one of the edges of at least one of the new Steiner trees is at least partially diagonal,

c)   calculating the length of the new Steiner trees to estimate the change in the total interconnect-line length.

Please add the following claims 88-96.

--88.   (New) A computer readable medium that stores a computer program that places circuit modules in an integrated circuit ("IC") layout, wherein said IC layout includes a set of circuit elements, the computer program comprising sets of instructions for:

a)   identifying a connection graph that models the topology of interconnect lines for connecting the set of circuit elements, wherein said connection graph has a plurality of edges, wherein at least some of the edges are neither parallel nor orthogonal to each other,

b)   identifying a placement metric based on the connection graph.

89.   (New) The computer readable medium of claim 88, wherein the set of instructions for identifying a placement metric comprises sets of instructions for calculating the length of the graph.

90.   (New) The computer readable medium of claim 89, wherein the length provides an estimate of interconnect-line length needed to connect the circuit elements of the net.

91.   (New) The computer readable medium of claim 90, wherein said placement metric estimate is identified to obtain a placement cost of an initial placement configuration.

92.   (New) The computer readable medium of claim 90, wherein said placement metric estimate is identified to obtain a placement cost of a modified placement configuration.

93.   (New) The computer readable medium of clam 88, wherein the edges that are neither parallel nor orthogonal forms a 45° angle with respect to each other.

94.   (New) The computer readable medium of clam 88, wherein the edges that are